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Group Art Unit 3723

REMARKS

Applicants have considered the outstanding official action. It is respectfully submitted that the claims are directed to patentable subject matter as set forth below.

Initially, it is noted that non-elected claims 35-48 have been cancelled. Applicants reserve the right to file a divisional application on the non-elected subject matter.

The informality noted by the Examiner with respect to claim 12 has been corrected as suggested by the Examiner.

Claims 7, 8, 33 and 34 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for the reason set forth at page 2 of the official action. Applicants respectfully traverse the rejection.

Applicants respectfully submit that the limitations of claims 7, 8, 33 and 34 are not inconsistent with each other or with respective base claims 1 and 24. Independent base claims 1 and 24 each require that the grains of the first grinding wheel and the second grinding wheel are different, i.e., "the first grinding wheel has a finer grain than said second grinding wheel". Accordingly,

in selecting the grain from a range as defined in the rejected dependent claims, such selection must still meet the underlying limitation of the base claim. Thus, the grain of the first grinding wheel will be finer than the grain of the second grinding wheel. The overlap between the ranges in the dependent claims are not inconsistent since, for example, within the overlap range if a grain size of 45 is selected for the second grinding wheel, the grain size of the first grinding wheel will be selected from the defined range and be less than 45, i.e., a finer grain size. Applicants, therefore, respectfully submit that the claims are definite within the meaning of 35 U.S.C. §112, second paragraph. Withdrawal of the §112 rejection is respectfully requested.

The outstanding rejections based on art are as follows:

- (1) Claims 1-14, 16-20 and 22-34 under 35 U.S.C. §103(a) over WO 00/21722 (Biagiotti) in view of U.S. Patent No. Re. 30,598 (Spencer) or U.S. Patent Application Publication No. 2002/0031991 (Gambini) and further in view of U.S. Patent No. 5,484,327 (Kovach) or U.S. Patent No. 5,941,763 (Kaye);

- (2) Claim 15 under 35 U.S.C. §103(a) over Biagiotti in view of Spencer or Gambini and further in view of Kovach or Kaye and particularly in view of Great Britain Patent No. 665,983 (Maatschappij; and
- (3) Claim 21 under 35 U.S.C. §103(a) over Biagiotti in view of Spencer or Gambini and further in view of Kovach or Kaye and particularly in view of U.S. Patent No. 3,507,633 (Dewez).

Initially, it is noted that PTO-892 as attached to the office action is incorrect as to the reference Maatschappij, i.e., the patent number should read GB 665,983, not US 665,983. US 665,983 is directed to a carpet renovator. Maatschappij is listed in applicants' PTO 1449 earlier submitted.

With regard to the rejections under 35 U.S.C. 103, claims 1 and 24 are the only pending independent claims and such are rejected over the combination of at least three references, the secondary references being each applied in the alternative as to two additional references.

Biagiotti, Spencer and Gambini relate to log cutting machines including log saws. In the machines described in Biagiotti, Spencer and Gambini, grinding wheels are used to sharpen cutting blades while operating the

cutting machine. The grinding wheels sharpen the cutting blades at regular intervals because the blades become worn by the paper being cut. Thus, the grinding wheels serve to address the wear on the blades which occurs in use.

Kovach relates to a method and apparatus for grinding a workpiece, such as an internal combustion engine valve, as a step of a manufacturing process. The purpose of the apparatus and method described in Kovach is to grind an article of manufacture before the article is used, i.e., the grinding is a machining step of a manufacturing process to provide an article.

Kaye relates to a fixture and device for controlled scissor sharpening. This is a different technical field from the invention as claimed and from the other applied references. Further, the sharpening process described is not carried out on a blade during operation of a cutting machine which uses the blade, rather, sharpening is performed as a last step of a scissor manufacturing process.

Applicants submit that one skilled in the art would not look to Kovach or Kaye to find features useful in a log saw sharpening device. Further, there is no hint in the prior art, which would direct one skilled in the art

towards providing first and second grinding wheels of different grain sizes in a log saw. There is no *a priori* reason to combine Kovach or Kaye with Biagiotti and Spencer or Gambini in view of the different purposes taught and machine structures and operation.

An additional shortcoming of the applied art is that Biagiotti fails to teach first and second grinding wheels acting on opposite sides of a blade bevel. To address this shortcoming, the Examiner asserts that Spencer discloses two grinding wheels acting on two sides of a blade bevel and that, therefore, using the two grinding wheels of Spencer in the machine of Biagiotti would be obvious.

Applicants submit that this assertion is incorrect. Biagiotti teaches a blade that has a chamfer or bevel with two sides F1, F2. The first side F1 is hardened (see e.g., page 8, line 30). The grinding wheel sharpens the opposite side F2, which is not hardened. The hardening on side F1 of the blade as described in Biagiotti is provided in combination with a sharpening device having a single grinding wheel acting on the side which is not hardened. An alternative suggested by Biagiotti is the use of multiple grinding wheels, however, such multiple wheels always act on the same side F2, i.e., the side not hardened.

Hardening of one side is provided in order to obtain an efficient cutting edge, which is more resistant to wear, by sharpening only one side with one or more grinding wheels. See page 3, lines 19-23, as well as page 3, line 24 to page 4, line 20, where additional advantages of the blade and sharpening concept are set forth. All the advantages are achieved due to the asymmetrical cutting bevel, with a hardened side and a sharpening arrangement having a single or plurality of grinding wheels acting on only one side of the blade. In fact, sharpening of the opposite side F1 of the blade, which has been subjected to hardening treatment, would be contrary to the function described. The grinding wheel would destroy the hardened layer of the cutting bevel thus making the hardening treatment a waste of time and money. Accordingly, one skilled in the art would not consider adding a second grinding wheel acting on the side F1 of the blade of Biagiotti.

Spencer discloses opposed grinding wheels acting on opposite sides of a blade. This, however, does not allow a conclusion that it would have been obvious to use this arrangement in the Biagiotti device. As set forth above, an opposite conclusion would be drawn since Biagiotti is based on the concept of hardening one side of the blade and

sharpening only the opposite side of the blade. Thus, one skilled in the art would not have considered the combination of Spencer and Biagiotti as asserted by the Examiner. The same applies with respect to Gambini.

Further, even though Spencer teaches the use of two opposed grinding wheels acting on opposed sides of a bevel, Spencer is silent about using grinding wheels having different grain sizes for performing different functions on opposed sides of the blade. Spencer teaches identical grinding wheels on both sides of the cutting blade, as does Gambini. Spencer and Gambini do not teach or suggest why one skilled in the art would use different grain sizes for two opposed grinding wheels. The Examiner attempts to fill the gap by applying either Kaye or Kovach. This, however, applicants submit is based on hindsight in view of the different technical fields and purposes taught with respect to Biagiotti, Spencer and Gambini as to Kovach or Kaye. There is no connection between Kaye or Kovach as to Spencer, Gambini and Biagiotti. More particularly, Kovach relates to the field of manufacturing internal combustion engine valves. More generally, Kovach is concerned with machining processes for finishing articles of manufacture by grinding.

Kovach teaches machining a workpiece, i.e., a valve, by using two grinding wheels having different grits. The purpose of the different grits is to perform a rough grinding and a subsequent finish grinding in the same manufacturing step. The two grinding wheels are used such that each portion of the workpiece surface is machined by the first and second grinding wheels in sequence. This is different from what is claimed by applicants. Claims 1 and 24 require that first and second grinding wheels act against different sides of a blade bevel, i.e., the two different grinding wheels do not machine the same surface in sequence as taught in Kovach. Rather, a first grinding wheel is structured to provide a first action on a first side and a second grinding wheel of different characteristics to provide a different action on a second side of the blade.

Kaye discloses a machine for sharpening scissors. At column 3, lines 29-32, the device of Kaye is described as being equipped with different grinding wheels, having different grits. The purpose of providing different grinding wheels is to perform different steps of a sharpening process on the same scissor (or possibly to select only one grinding wheel to perform only one grinding operation on a scissor). This is distinct and different

from applicants' claimed apparatus which is structured to provide two grinding wheels having different grain dimensions to act on opposite sides of the same cutting bevel.

Additionally, claims 1 and 24 do not simply require grinding wheels of different grain sizes, but also claim a specific manner of positioning the grinding wheels with respect to a cutting tool bevel. For example, the claims specifically provide that the first grinding wheel has an inclination which places the first grinding wheel against the first side of the bevel at an inclination greater than the inclination of the first side. This feature is not disclosed in any of the applied references.

The above mentioned feature has a specific function, namely the first grinding wheel is constructed and arranged to apply a reaction force to the blade to prevent or reduce flexure in the sharpening area and to remove burrs produced by the second grinding wheel. The second grinding wheel, conversely, is arranged substantially parallel to the second side of the bevel and is provided for actual sharpening of the bevel.

None of the applied references disclose grinding wheels of different grain size arranged on opposite sides of

a blade bevel, at different inclinations, to perform different actions on the opposed bevels. More specifically, in summary, Biagiotti teaches using grinding wheels on one side of a blade only and to harden the side opposed thereto. Biagiotti, therefore, excludes the possibility of using grinding wheels on both opposite sides of the bevel. Spencer and Gambini each teach arranging two opposing and identical grinding wheels at a substantially identical inclination with respect to the bevel. This teaching is inconsistent with Biagiotti and cannot be combined with Biagiotti. Kovach suggests using grinding wheels of different grit in sequence to machine the same part of a workpiece. Kovach does not suggest using different grinding wheels arranged at different inclinations in order to act on different parts of the same product. Alternatively, it is submitted that if Kovach was combined with Biagiotti, such would have been to provide two grinding wheels of different grit placed in sequence on the same side of the bevel, not one on a first side and one on a second side. In particular, when combining Biagiotti, Spencer and Kovach, one skilled in the art would not have considered arranging two grinding wheels with one on a first side and one on a second side of the bevel as well as with different

inclinations and different grain size. Kaye teaches arranging different grinding wheels such that two grinding wheels cannot act simultaneously on the scissor. Rather, sharpening can be performed with only one grinding wheel at a time. There is no teaching or suggestion in Kaye to simultaneously use two different grinding wheels on different sides of one and the same bevel of a cutting tool.

The remaining claims are dependent on either claim 1 or 24 and include the same features of claims 1 and 24 which distinguish the claims over the applied art as set forth above.

As to the rejections of dependent claims 15 and 22, such are rejected over the same references applied against claims 1 and 24 as set forth above and further in view of an additional reference, Maatschappij as to claim 15 and Dewez as to claim 21. Each of Maatschappij and Dewez are applied based on the additional limitations in claims 15 and 21 respectively. Accordingly, applicants submit that the additional applied references do not make up for the shortcomings of Biagiotti, Spencer or Gambini, and Kovach or Kaye as set forth above. Maatschappij and Dewez are each directed to a blade composition/structure, and not to a sharpening apparatus containing such a blade.

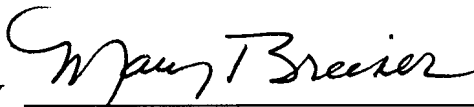
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Accordingly, applicants respectfully submit that the claims are not rendered obvious within the meaning of 35 U.S.C. §103. Thus, withdrawal of the rejection under 35 U.S.C. §103 is respectfully requested.

Reconsideration and allowance of the application are respectfully urged.

Respectfully submitted,

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